DEPARTMENT OF THE NAVY
NAVAL AIR SYSTEMS COMMAND
NAVAL AIR SYSTEMS COMMAND HEADQUARTERS
WASHINGTON, DC 20361

IN REPLY REFER TO
NAVAIRINST 4720.2A
AIR-5302B
11 Mar 85

NAVAIR INSTRUCTION 4720.2A

From: Commander, Naval Air Systems Command

Subj: PROCEDURES FOR REPORTING STRUCTURAL ALTERATIONS ON AIRCRAFT FOR FATIGUE LIFE EVALUATION PROGRAM

Encl: (1) Structural Alteration Report

1. Purpose. To provide procedures for reporting structural alterations on aircraft that affect the fatigue life analysis records.

2. Cancellation. This instruction supersedes NAVAIR Instruction 4720.2 dated 20 August 1974. Since this is a major revision, changes are not indicated.

3. Applicability. This instruction applies to all fixed-wing naval aircraft. It is applicable to specific structural components or areas of the aircraft which; by their modification, replacement, or interchange with identical components or areas from other aircraft, would affect the fatigue life of the aircraft. It primarily encompasses aircraft wings, tip to tip except fairings, control surfaces, and wing-mounted landing gear, but also applies to the aircraft's empennage, including the horizontal and vertical tail structures.

4. Definition. For this instruction, alteration means (1) replacement of any major structural component with an unused or new production part, (2) interchange of any major structural component with a component from another aircraft with prior service use, that is, modification (repair) of the same component, and (3) modification (repair) and reinstallation of a major structural component from the same aircraft.

5. Background. Replacement, interchange, or modification of structural components is accomplished by cognizant aircraft rework points or by commercial scheduled depot level maintenance (SDLM) contractors for many models of naval aircraft. Maintenance schedules often dictate installing new or repaired components on an aircraft while its own damaged component is left for rework (interchange of wing outer panels is prevalent). It is most important to the Navy's Structural Fatigue Life Evaluation Program that the life history of each aircraft, and each critical component be kept current and accessible to the activities involved in this program.

6. Discussion. Personnel of the Naval Air Development Center (NAVAIRDEVCEN), responsible for maintaining fleet aircraft structural fatigue life expenditure records, must have access to information on aircraft structural alterations. Accordingly, local records of alterations at all maintenance activities will be as complete as possible. These records are essential for

8438

individual aircraft which have been fitted with structural components having accumulated flight hours and load histories different from those of the recipient aircraft to assure adequate service life assessment. All alterations to the structures which may affect the fatigue life status of the airframe will be documented and reported by the maintenance activities performing such alterations.

7. Action. Naval air rework facilities will submit structural alteration reports via the Naval Aviation Logistics Center (NAVAVNLOGCEN), in the format of enclosure (1), to the Naval Air Development Center (Code 6042), Warminster, PA 18974, immediately following structural alterations and prior to transfer of aircraft. The NAVAVNLOGCEN will include appropriate reporting requirements in their contracts with commercial SDLM contractors to assure reporting of structural alterations for forwarding to the NAVAIRDEVCEN. Complete structural replacements or interchange, and structural swaps will be noted in the individual aircraft's log book. Reports of alterations accomplished, following airframe changes, requiring log book entries, and separately reported, are not required.

8. Reports. Report Symbol NAVAIR 4720-1 has been assigned to the reporting requirements contained in paragraph 7 above, and is approved for 3 years only from the date of this instruction.

J. B. WILKINSON
Vice Commander

Distribution: (2 copies each)
SNDL: FKR1B, FKR7E

Copy to: (2 copies each unless otherwise shown)
SNDL: C37E4 (NPPSDO, NDW C/L; C37F3 (Morgantown (1 copy)); FKA1A (AIR-07D21 A/L (1 copy), AIR-411, AIR-5302 (5 copies), AIR-7221 (10 copies), AIR-7221F (50 copies)); FKA6A1; FKM15

Stocked: Commanding Officer, Naval Publications and Forms Center, 5801 Tabor Ave., Philadelphia, PA 19120



2 8438

STRUCTURAL ALTERATION REPORT (REPORT SYMBOL NAVAIR 4720-1)

| Commander<br>NAVAIRDEVCEN (Code 6042)<br>Warminster, PA 18974 | From: |
|---|---|

| Reporting Period | Aircraft Serial Number/Model | Total Flight Hrs. | Alteration Comp. Date |
|---|---|---|---|
| | | | |

Type of Alteration (check one) ☐ Repair ☐ Replace ☐ Interchange

Brief Description of Alteration (Identify Structural Component/Area)

| | | | | |
|---|---|---|---|---|
| Counting Accelerometer Readings prior to Structural Alteration | LEVEL 1 | LEVEL 2 | LEVEL 3 | LEVEL 4 |
| | | | | |
| Counting Accelerometer Readings when Returned to Service | LEVEL 1 | LEVEL 2 | LEVEL 3 | LEVEL 4 |
| | | | | |
| Wing Section (s) Replaced (Check Approp. Boxes) | Serial No. of Section Replaced | Serial No. of Replacement Section | Serial No. of Donor Aircraft | **Total Flight Hours on Donor Aircraft |
| ☐ Rt. Outer Panel | | | | |
| ☐ Left Outer Panel | | | | |
| ☐ Rt. Center Section | | | | |
| ☐ Left Center Section | | | | |
| ☐ Carry Through Beam | | | | |
| Other Structural Areas (Identify) | | | | |

REMARKS:

| Signature/Telephone Number | Date |
|---|---|
| | |

* If replacement section (s) is/are new production part (s) skip this block and enter new production under remarks.

** Enter properly identified counting accelerometer readings on donor aircraft at time of wing section (s) removal under remarks.

(3) 8438 Encl (1)